



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,840	08/08/2001	Decai Sun	D/99580I XER 2 0292-3	6795
7590	08/29/2005			EXAMINER JACKSON JR, JEROME
FAY, SHARPE, FAGAN, MINNICH & McKEE, LLP Seventh Floor 1100 Superior Avenue Cleveland, OH 44114-2518			ART UNIT 2815	PAPER NUMBER
DATE MAILED: 08/29/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/924,840	SUN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jerome Jackson Jr.	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 20 June 2005.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1,2,5-7,16 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 25-31 is/are allowed.
- 6) Claim(s) 1,2,5-7,16 and 21-24 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All
    - b) Some \*
    - c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 2815

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 5-7 and 21-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no antecedent basis in the original disclosure for the recitation "rigid". It is new matter and there is no description of what specific materials are included or excluded from applicant's definition of "rigid". There is no definition of "rigid" in the original disclosure and no means to determine the metes and bounds of what applicant intends by "rigid". There is no way for one of ordinary skill to determine applicant's definition of "rigid" without undue experimentation.

Claims 1,2,5-7 and 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For the above reasons the term "rigid" is vague and indefinite. There are no magnitudes of "rigidity" disclosed originally or otherwise.

Claims 1,2,6,7,16,21-23 as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Wagner '599, of record.

The previous rejection still applies. The new limitation "rigid" substrate does not structurally distinguish over Wagner as the plastic substrate is "rigid" and furthermore Wagner teaches in column 8 line 28 insulating substrates of glass or plastics. Glass is

Art Unit: 2815

"rigid". Furthermore the limitation "to position..." is a statement of intended use which does not structurally distinguish the claims over Wagner where the sensor and emitter are "positioned" from one another. Claims 1 and 2 are thus rejected. Claim 6 is rejected as Wagner teaches transparent conductive electrode layers 104,105. Claim 7 is rejected as Wagner teaches p-I-n amorphous silicon layers. Claim 16 is rejected as there are passivation and metal layers 801, 901, 902. Claim 21 is rejected as the glass or plastic substrate of Wagner is "rigid". Claims 22 and 23 are rejected as passivation layer 801 also can be labeled an "antireflection layer" on the transparent electrodes.

Claims 1,2,5-7,16,21-23, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner in view of Sugawara '479.

Wagner as applied above and further in view of Sugawara who teaches an air gap between the emitter and detector defined by contact height. The motivation to align the devices as such is for exact determination and optimization of separation distance. See column 3. The gap between the emitter and detector is an air gap or coupling medium depending on desired coupling considerations. See column 4 last paragraph. Claim 5 is thus obvious structure.

Claims 1,2,5-7,16,21-23, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner with Sugawara and further in view of Heyke '901.

Heyke suggests an antireflection coating to "avoid undesirable reflections", col.3 lines 27-36. It would have been obvious to have practiced an antireflection on the pin diode of Wagner to reduce reflections.

Art Unit: 2815

Claims 25-31 are allowed.

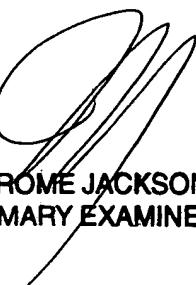
The prior art of record does not fairly suggest the emitter/detector claimed structure with an absorption layer on the pin diode.

Applicant's arguments with respect to all the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571-272-1730. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JEROME JACKSON  
PRIMARY EXAMINER